

AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claim 1. **(currently amended)** A medical tubular structure comprising:

~~a lumen extending through at least a portion of the tubular structure;~~

an overlying layer and a support layer defining an internal lumen, wherein the ;

~~and~~

a support layer having comprises a contiguous coil element, a braid element or a weave element including a plurality of loops, the support layer being attached to the overlying layer at a bonding point and not attached to the overlying layer along further having a free portion, wherein whereby the support layer free portion is slippable relative to the overlying layer along the free portion when the tubular structure is bent.

Claim 2. **(original)** The tubular structure of claim 1, wherein the loops are moveable to reposition relative to each other as the tubular structure is bent.

Claim 3. **(original)** The tubular structure of claim 1, wherein the bonding point is at one end of the support layer and the remaining portion of the support layer is the free portion.

Claim 4. **(original)** The tubular structure of claim 1, wherein the structure is flexible around a .75 to 1.50 radius object without kinking.

Claim 5. **(currently amended)** A medical tubular structure comprising:

an overlying layer and a thermally shrinkable sheath forming a lumen extending through
at least a portion of the tubular structure;

a the thermally shrinkable sheath having a plurality of etches on at least its interior
surface,

a support layer comprising having a contiguous coil element, a braid element or a weave
element including a plurality of loops, the support layer being attached to the sheath at a bonding

point and further having a free portion, wherein the free portion of the support layer is slippable relative to the sheath; and

wherein the sheath encases and contacts the support layer and the support layer and sheath are slippable relative to one another along the free portion ~~by heat reduction of 25 percent or less of an original diameter of the sheath to at least substantially maintain the etches during the heat reduction.~~

Claim 6. **(original)** The tubular structure of claim 5, wherein the sheath comprises a polytetrafluoroethylene material.

Claim 7. **(original)** The tubular structure of claim 6, wherein the sheath comprises PTFE, Teflon[®], FEP and/or PFA.

Claim 8. **(original)** The tubular structure of claim 5, wherein the support layer includes the contiguous coil element comprised of a wire and a plurality of gaps between each loop, the gaps being of sufficient size to resist kinking of the tubular structure.

Claim 9. **(previously presented)** The tubular structure of claim 8, wherein the length of each gap is about 10-200 percent of the width of the wire.

Claim 10. **(previously presented)** The tubular structure of claim 8, wherein the structure is flexible around a .25 to .50 radius object without kinking.

Claim 11. **(currently amended)** A medical tubular structure comprising:

~~a lumen extending through at least a portion of the tubular structure;~~

an underlying layer and a thermally shrinkable sheath forming a lumen extending through at least a portion of the tubular structure, ~~in the wall of the tube; and~~

a the thermally shrinkable sheath having a plurality of etches on at least its interior surface, the sheath encasing at least a portion of the underlying layer by heat-reduction of 25 percent or less of an original diameter of the sheath ~~to at least~~ and substantially maintaining the etches during the heat-reduction.

Claim 12. **(previously presented)** The tubular structure of claim 11, wherein the sheath comprises a polytetrafluoroethylene material.

Claim 13. **(previously presented)** The tubular structure of claim 12, wherein the sheath comprises PTFE, Teflon[®], FEP and/or PFA.

Claim 14. **(original)** The tubular structure of claim 13, wherein the underlying layer includes the contiguous coil element comprised of a wire and a plurality of gaps between each loop, the gaps being of sufficient size to resist kinking of the tubular structure.

Claim 15. **(original)** The tubular structure of claim 14, wherein the length of each gap is about 10-200 percent of the width of the wire.

Claim 16. **(original)** The tubular structure of claim 10, wherein the sheath is bonded to the underlying layer in at least one end of the sheath and the sheath is capable of slipping along the underlying layer as the tubular structure is bent.

Claim 17. **(original)** The tubular structure of claim 16, wherein the structure is flexible around a .25 to .50 radius object without kinking.

Claim 18. is **cancelled**.

Claim 19. **(currently amended)** The device of claim ~~18~~26, wherein the at least a portion of the support layer includes gaps between each loop of the coiled element, the gaps being of sufficient size to resist kinking of the tubular structure.

Claim 20. **(currently amended)** The device of claim ~~18~~26, further comprising a drive shaft extending within the internal lumen of the catheter and a drive system for driving the drive shaft.

Claim 21. **(original)** The device of claim 20, further comprising a control system to direct rotation of the drive shaft.

Claims 22-25 are **cancelled**.

Claim 26. **(new)** An intracorporeal medical device comprising an operating head and a catheter, wherein the catheter comprises a medical tubular structure of claim 1.

Claim 27. **(new)** An intracorporeal medical device of claim 26, wherein the operating head comprises a cutter.

Claim 28. **(new)** An intracorporeal medical device of claim 26, wherein the catheter comprises a proximal section having the least flexibility, a mid section and a distal section having the most flexibility and the distal section comprises the medical tubular structure of claim 1.